

ELV

85-8-28-701

FORM 711h PREVIOUS EDITION IS OBSOLETE (When filled in)

TAB LETTER	USAF MISHAP REPORT CHECKLIST AND INDEX	NOT APPLICABLE	APPLICABLE NOT ATTACHED	ATTACHED
I. FACTS				
A	AF FORM 711			X
B	AF FORM 711A	X		
C	AF FORM 711B	X		
D	AF FORM 711C	X		
E	AF FORM 711D			X
F	AF FORM 711E	X		
G	FLIGHT AND PERSONNEL RECORDS	X		
H	AFTO FORM 781 SERIES	X		
I	MATERIEL DEFICIENCY REPORT	X		
J	TECHNICAL OR ENGINEERING EVALUATIONS OF MATERIEL (Department of Defense)	X		
K	DD FORM 175 OR AUTHORIZED SUBSTITUTE FLIGHT PLAN FORMS (See AFR 60-16)	X		
L	DD FORM 365F, WEIGHT AND BALANCE CLEARANCE FORM F	X		
M	CERTIFICATE OF DAMAGE (List of parts damaged) MANHOURS REQUIRED TO REPAIR, AND COST	X		
N	TRANSCRIPTS OF RECORDED COMMUNICATIONS	X		
O	ANY ADDITIONAL SUBSTANTIATING DATA REPORTS	X		
P	STATEMENT OF DAMAGE TO PRIVATE PROPERTY	X		
Q	ORDERS APPOINTING INVESTIGATING BOARD			X
R	DIAGRAMS (Fallout-impact area, etc.)			X
S	PHOTOGRAPHS			X
II. BOARD OR INVESTIGATOR ANALYSIS				
T	INVESTIGATION, ANALYSIS, FINDINGS AND RECOMMENDATIONS	NOT RELEASABLE		X
U	STATEMENTS AND TESTIMONY OF WITNESSES AND PERSONS INVOLVED	NOT RELEASABLE		X
V	REBUTTALS	NOT RELEASABLE		
W	TECHNICAL AND ENGINEERING EVALUATIONS OF MATERIEL (Contractors)	NOT RELEASABLE		X
X	AF FORM 711F	X		
Y	AF FORM 711G LIFE SCIENCES REPORT	X		
Z	BOARD PROCEEDINGS	NOT RELEASABLE		X
<p>WHENEVER "APPLICABLE BUT NOT ATTACHED" COLUMN IS MARKED FOR ANY OF THE ABOVE ITEMS, INFORMATION MUST BE ENTERED UNDER REMARKS TO INDICATE WHAT ACTION HAS BEEN TAKEN OR WILL BE TAKEN TO OBTAIN THE REQUIRED ATTACHMENT. LETTERED TABS SHOWN ABOVE WILL BE INSERTED FOR CORRESPONDING ATTACHED ITEMS, I.E., TAB G WILL ALWAYS BE USED FOR INDIVIDUAL FLIGHT RECORDS, TAB N FOR TRANSCRIPTS OF RECORDED COMMUNICATIONS, TABS WILL BE OMITTED ON THOSE ITEMS NOT APPLICABLE.</p>				
REMARKS				

MISSILE OR SPACE VEHICLE MISHAP REPORT

(Fill in all spaces applicable. If additional space is needed, use additional sheet(s))

1. GENERAL INFORMATION					
A. SERIAL NO. AND DESIGNATION OF AERO-SPACE VEHICLE(S) INVOLVED Titan 34D-7		B. ASSIGNMENT OR STATUS CODE (AFR 63-110) 6595 ATG		C. MRS & TIME ZONE (Local) OF LAUNCH 1420	
				D. DURATION OF FLIGHT HR. 00 MIN. 04 SEC. 32.8	
E. ACTIVITY OR MANEUVER PRIOR TO ACCIDENT/INCIDENT			F. ALT. OF ACCT IN RELATION TO TERRAIN (Actual or estimated)		G. VIOLATIONS <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2. PHASE OF OPERATION (Check one)					
<input type="checkbox"/> TRANSPORTATION <input type="checkbox"/> HANDLING <input type="checkbox"/> COUNTDOWN <input checked="" type="checkbox"/> INITIAL CLIMB <input type="checkbox"/> RE-ENTRY <input type="checkbox"/> RECOVERY <input type="checkbox"/> OTHER (Specify) <input type="checkbox"/> STORAGE <input type="checkbox"/> PRECOUNTDOWN <input type="checkbox"/> LAUNCH <input type="checkbox"/> INFIGHT <input type="checkbox"/> TERMINAL OR DUMP <input type="checkbox"/> SERVICING OR MAINTENANCE					
3. ACCIDENT TYPE			4. MISSION		
(e.g. Fire or explosion on launch or in air, intentional destruct or flight term., power failure in flight, loss of command guidance, flight control system, primary guidance system.) Power failure in flight, intentional destruct.			(e.g. Launch, training, maint. handling, operations alert, IAC Test) CLASSIFIED		
5. WEATHER (At time and place of mishap)					
SKY CONDITIONS CLEAR		VISIBILITY UNLIMITED		WIND DIRECTION AND VELOCITY-SURFACE AND ALTITUDES ON TRAJECTORY NEGLEGIBLE	
TEMPERATURE N/A		HUMIDITY N/A		DEW POINT N/A	
OTHER WEATHER CONDITIONS (If weather was a factor in accident indicate and attach a statement of weather officer) WEATHER NOT A FACTOR					
6. MISSILE OR MSE DAMAGE INFORMATION					
A. DAMAGE (Check one) <input checked="" type="checkbox"/> DESTROYED OR DAMAGED BEYOND ECONOMICAL REPAIR <input type="checkbox"/> REPAIRABLE <input type="checkbox"/> MISSING				B. EST. NO. DIRECT MANHOURS FOR REPAIR, IF APPLICABLE (Including ALC hours) N/A	
C. TO MISSILE (If destroyed, see T.O. 00-25-30) Over 1 200M		D. TO OPERATIONAL GROUND EQUIPMENT (Exclude normal residual damage)		E. T.O.'S NOT COMPLIED WITH AT TIME OF AC-CIDENT TOTAL NUMBER N/A	
F. FIRE OCCURRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PRE-LAUNCH _____ LAUNCH _____ INFIGHT _____ ON IMPACT _____ Unknown		F. EXPLOSION OCCURRED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, PRE-LAUNCH _____ LAUNCH _____ INFIGHT _____ ON IMPACT _____ Intentional Destruct Command Stage II			
H. MDR SUBMITTED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		I. PREVIOUS MDR'S SUBMITTED ON ANY FAC-TOR INVOLVED? IF YES, HOW MANY <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		J. FAILURE & CON-SUMPTION RE-PORT SUBMITTED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
K. TOR REQUESTED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		L. DULL SWORD SUB-MITTED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
M. IDENTIFY REPORT NUMBERS & FACTORS ON ITEMS H, I, J, K, L AS APPLICABLE AND ATTACH REPORTS (Include Work Unit and How Malfunction Codes) N/A					
7. N/A LAUNCH FACILITIES					
A. TYPE OF FACILITY			B. IF FACILITY WAS A FACTOR IN THIS MISHAP, GIVE DETAILS		
C. SUMMARIZE LAUNCH CLEARANCE WITH MILITARY OR CIVIL AGENCIES (if applicable)			D. TOXIC CHEMICALS INVOLVED <input type="checkbox"/> YES <input type="checkbox"/> NO TYPE CHEMICALS _____		
8. N/A AIRCRAFT INFORMATION					
A. LAUNCH ACFT MORS		B. ACFT SERIAL NO.		C. WAS AIRCRAFT DAMAGED? <input type="checkbox"/> YES <input type="checkbox"/> NO DEST. _____ SUB. _____ MINOR _____ MISSING _____	
D. SPECIFY ACFT SYSTEM(S) CONTRIB. TO ACCT IF PERTINENT (Include Work Unit and How Malfunction Codes)					
9. N/A OTHER USAF PROPERTY DAMAGE					
A. TYPE OF PROPERTY DAMAGED (Fac. Bldg. Structures & other Government Equipment)				B. REPAIR/REPLACEMENT COST \$ _____	
10. N/A NON - USAF PROPERTY DAMAGE					
A. PROPERTY DAMAGE (Type and extent)				B. COST OF DAMAGE \$ _____	

11. EXPERIENCE OF KEY PERSONNEL									
LAUNCH EXPERIENCE		LAUNCHES SUPERVISED		LAUNCH EXPERIENCE		LAUNCHES SUPERVISED		LAUNCH EXPERIENCE	
DUTY (As applicable)		TOTAL PREV	THIS MISSILE	DUTY (As applicable)		TOTAL PREV	THIS MISSILE	DUTY (As applicable)	
COMDR OF UNIT POSSESSING MISSILE			30	RANGE SAFETY OFFICER				LAUNCH PILOT	
FLIGHT SITE COMMANDER			7	GROUND CONTROL OFFICER			10	CHASE PILOT	
OPERATIONS OFFICER				GUIDANCE OFFICER			3	OTHER ACFT CREW	
LAUNCH CONTROL OFFICER			10	OTHER GROUND PERS (Specify)					

12. OTHER EXPERIENCE IF MISHAP DID NOT OCCUR DURING LAUNCH, IDENTIFY PERSONNEL BY DUTY AND GIVE EXPERIENCE IN TYPE OF OPERATIONS IN PROGRESS, FOR EXAMPLE, PROPELLANT LOADING, PAD SETUP, NO. OF WEAPONS LOADINGS, ETC.

12. ENGINE(S)	
A. ENGINE INVOLVED <input checked="" type="checkbox"/> BOOSTER Stage I <input type="checkbox"/> TURBOJET <input type="checkbox"/> SUSTAINER <input type="checkbox"/> RAMJET <input type="checkbox"/> VERNIER <input type="checkbox"/> OTHER	
B. AEROJET "LIQUID ROCKET" ENG. LR 87-AJ-11 S/N 6241150	C. MANUFACTURER AND DATE OF MANUFACTURE AEROJET TECH SERVICES CO. 1-9/10/81
D. ENGINE TIME (Hours, minutes) STATIC TEST, FLIGHT TEST, (Hot Fire) 21.00 secs GROUND RUN UP	E. POWERED FLIGHT TIME ON ACCIDENT INVOLVED ENGINE (Hr, min, sec) N/A
F. ENGINE TIME SINCE OVERHAUL (Hours, minutes) N/A	G. ENGINE OVERHAUL DEPOT OR FACILITY ACCOMPLISHING TOR N/A

13. N/A GUIDANCE OR OTHER SYSTEM(S)	
A. NAME, MODEL, SERIAL NO.	B. MANUFACTURER, DATE OF MFR OF MALFUNCTIONING COMPONENT
C. TIME IN SERVICE	D. OVERHAUL DEPOT OR FACILITY ACCOMPLISHING TOR (If applicable)
A. NAME, MODEL, SERIAL NO.	B. MANUFACTURER, DATE OF MFR OF MALFUNCTIONING COMPONENT
C. TIME IN SERVICE	D. OVERHAUL DEPOT OR FACILITY ACCOMPLISHING TOR (If applicable)

14. DESCRIPTION AND HISTORY OF MALFUNCTIONING COMPONENT(S)	
DESCRIBE PREVIOUS DISCREPANCIES OR DIFFICULTIES ENCOUNTERED INCLUDING SERVICES, MAINTENANCE AND OPERATIONAL DIFFICULTIES. SUMMARIZE INFORMATION THAT RELATES TO SPECIFIC FAILURE(S) OR MALFUNCTION(S)	

USAF MISHAP REPORT

(Fill in all spaces applicable. If additional space is needed, use additional sheet(s).)

1. DATE OF OCCURRENCE (Day, Month and Year)	2. VEHICLE(S) OR MATERIEL INVOLVED (Model designation and serial no. if applicable)	3. FOR GROUND ACCIDENTS ONLY (Base Code and Report Serial No.)
28 AUGUST 1965	TITAN 34D-7	85-8-28-701

4. PLACE OF OCCURRENCE, STATE, COUNTY, DISTANCE AND DIRECTION FROM NEAREST TOWN, IF ON BASE, IDENTIFY. IF OFF BASE GIVE DISTANCE FROM NEAREST BASE: 300 miles off coast of Baja California in the broad Pacific Ocean	5. HOUR AND TIME ZONE LOCAL 1425 P.D.T.	6. <input checked="" type="checkbox"/> DAY <input type="checkbox"/> NIGHT <input type="checkbox"/> DAWN <input type="checkbox"/> DUSK
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7. ORGANIZATION POSSESSING OR OWNING VEHICLE OR MATERIEL AT TIME OF MISHAP						
MAJOR COMMAND AFSC	SUBCOMD OR AF SD	AIR DIVISION SAMTO	WING WSMC	GROUP 6595 ATG	SQ OR UNIT	NAME & BASE CODE Vandenberg AFB (XUMV)

8. (List organizations of second vehicle, if they differ from Item 7 above)						

9. ORGANIZATION AND BASE SUBMITTING REPORT (Do not abbreviate) Titan 34D-7 Class A Space Mishap Investigation Board, HQ Space Division, Los Angeles AFS, CA 90009-2960						
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10. LIST OF PERSONNEL DIRECTLY INVOLVED (See AFR 127-2 for specific instructions)							
LAST NAME, FIRST NAME, MIDDLE INITIAL	GRADE	SSAN	ASSIGNED DUTY	AERO RATING	DEGREE OF INJURY (Use Abbr)	DAYS LOST ON DUTY ONLY	
NONE							

11. (Enter applicable letter(s) in DEGREE OF INJURY column. None-N; Temporary Total-TT; Permanent Partial-PP; Permanent Total-PT; Fatal-F; Missing-M)							
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12. FACTUAL SUMMARY OF CIRCUMSTANCES. GIVE A DETAILED HISTORY OF FLIGHT OR CHRONOLOGICAL ORDER OF FACTS AND CIRCUMSTANCES LEADING TO THE MISHAP. THE RESULTS OF INVESTIGATION WILL BE CONTAINED IN THE "ANALYSIS PART" OF THE REPORT. ANALYSIS OF AND CONCLUSIONS DRAWN FROM ORAL OR WRITTEN STATEMENTS OBTAINED ONLY IN THE INTEREST OF MISHAP PREVENTION WILL NOT BE INCLUDED IN THIS SUMMARY.							
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Titan 34D-7 had a nominal lift-off occurring at 1420 PDT with Solid Rocket Motor (SRM) ignition. After clearing the launch complex, the vehicle rolled to the desired flight azimuth and began to pitch over in the trajectory plane. At T+108.8 seconds, Stage I engine was ignited. The SRM's were separated from the core vehicle at T+118.4 seconds. The flight continued nominally up to T+212.8 seconds. At T+212.8 seconds, Stage I Thrust Chamber Assembly (TCA) 1 pressure dropped to zero. The vehicle continued flight to T+221 seconds where erratic attitude rates were noted. At T+229 seconds, the command receiver signal strength became erratic and the test range computed impact point stopped moving down range. Stage I TCA 2 pressure dropped to zero at T+256.9 seconds and Stage I prematurely separated as Stage II ignited. At T+261 seconds, all attitude rates and the command receiver signal strength became very erratic. The destruct command was sent by the Missile Flight Control Officer at T+272.8 seconds and termination of flight was confirmed.

12. AUTHENTICATION			
CERTIFICATION BY (Title)	TYPED NAME AND GRADE	SIGNATURE	DATE
Board President	DONALD J. KUTYNA, Brig Gen	<i>Donald J. Kutyna</i>	25 October 1965

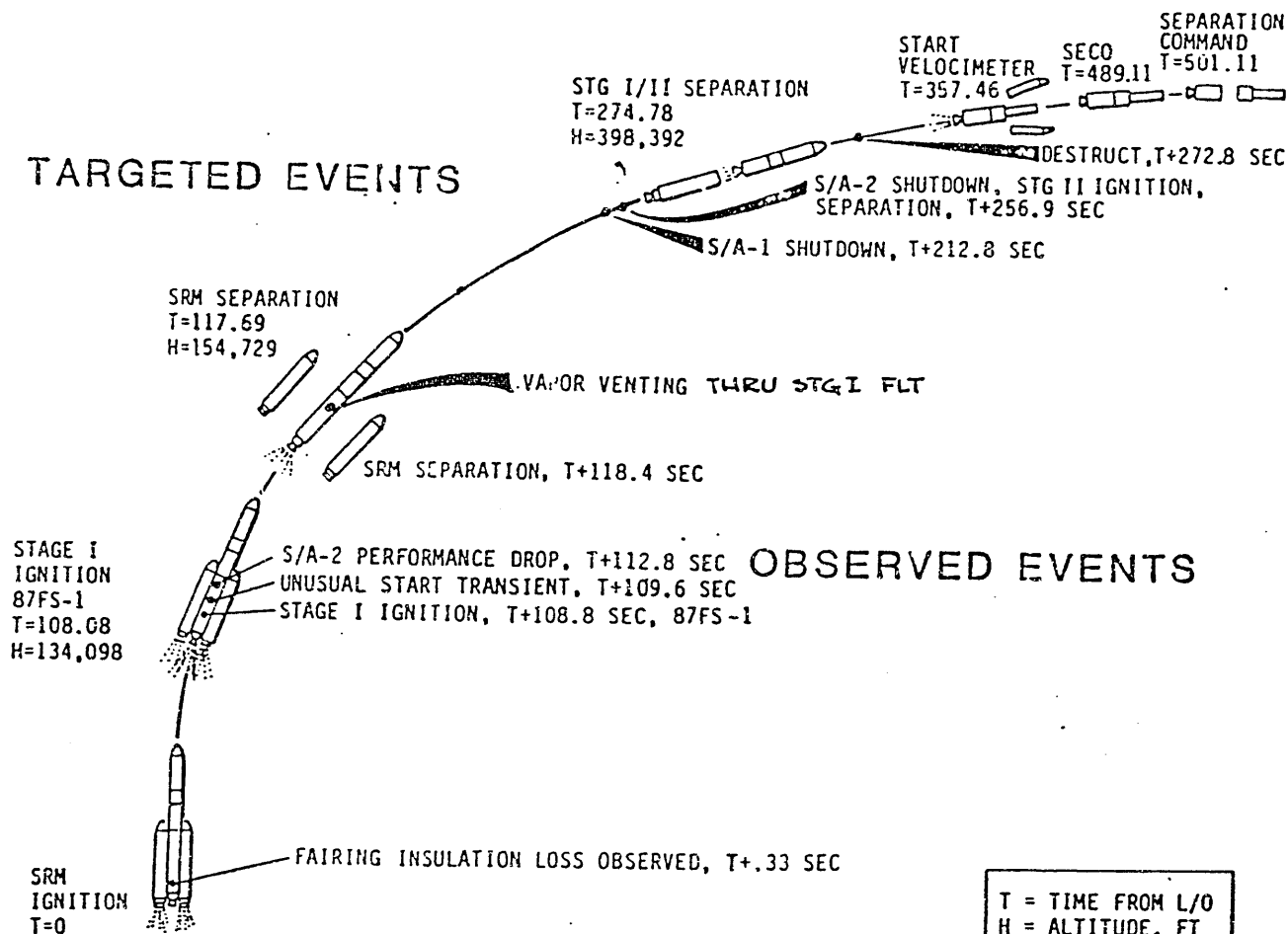
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TARGETED EVENTS



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DEPARTMENT OF THE AIR FORCE

HEADQUARTERS SPACE DIVISION (AFSC)
LOS ANGELES AIR FORCE STATION, PO BOX 92960, WORLDWAY POSTAL CENTER
LOS ANGELES, CA 90009-2960

SPECIAL ORDER
AA-89

25 Oct 85

The following personnel are appointed to serve as members of Air Force Systems Command Mishap Investigation Board for the purpose of investigating a mishap, which occurred on 28 August 1985, involving a launch vehicle at Vandenberg AFB, California. This duty takes precedence over all other duties, TDY, and leave. Funding this duty is per individuals' organizations. AUTHORITY: HQ AFSC/SDS Msg 301300Z Aug 85.

GRADE/NAME	SSAN	ORGANIZATION	CLEARANCE
BRIG GEN KUTYNA, DONALD J.	---	HQ USAF/RDS	TOP SECRET PRESIDENT
COL BARON, BRUCE		OSAF	TOP SECRET
COL RANDAZZO, RICHARD J.		SD/DAAX	TOP SECRET
LT COL GAYER, FRANK W.		SD/DAAX	TOP SECRET
LT COL HURTADO, LOUIS N.		SD/YOX	TOP SECRET
LT COL SUNDBERG, ERIC E.		HQ SPACECMD/DOTS	TOP SECRET
MAJ BLANKINSHIP, EDWIN A.		SD/YOC	TOP SECRET
MAJ PROCTOR, ROBERT W.		AFSCF/SDSL	TOP SECRET
CAPT CLIFT, STEPHEN L.		SD/DAAX	TOP SECRET
CAPT GREENWOOD, JAMES R.		AFRPL/LK	TOP SECRET
CAPT LIVINGSTON, JAMES W.		6555 ASTG/LVT	TOP SECRET
DR HAWK, CLARK W.		AFRPL/LK	TOP SECRET
MR ALLMAN, RICHARD M.		AEROSPACE CORP	TOP SECRET
CAPT RIEDIGER, DOUGLAS D.		SD/CFGI	TOP SECRET RECORDER
ADVISORS			
CAPT BURGESS, JON R.		SD/SES	TOP SECRET SAFETY OFFICE
DR WILLIAMS, WALT			TOP SECRET NASA

FOR THE COMMANDER



NORMA L. S. AFMCKBAU, Lt Col, USAF
Director of Administration

DISTRIBUTION: AA

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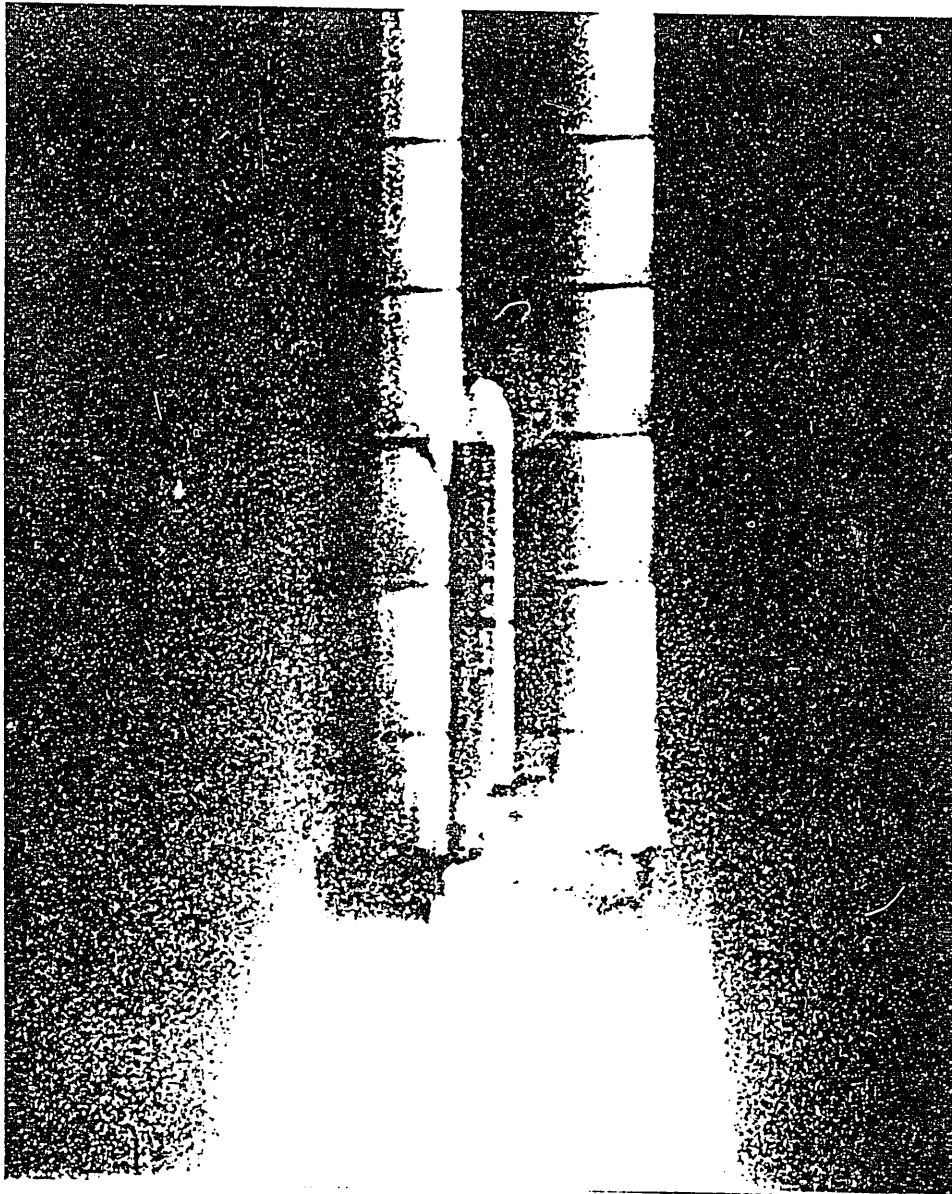
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- S-2 Stage I Ignition "Puff"
- S-3 Red "Bow Tie" Effect
- S-4 Venting after Stage O/I Separation
- S-5 Increased Venting during Stage I Flight
- S-6 Pinwheeling after Subassembly 1 Shutdown

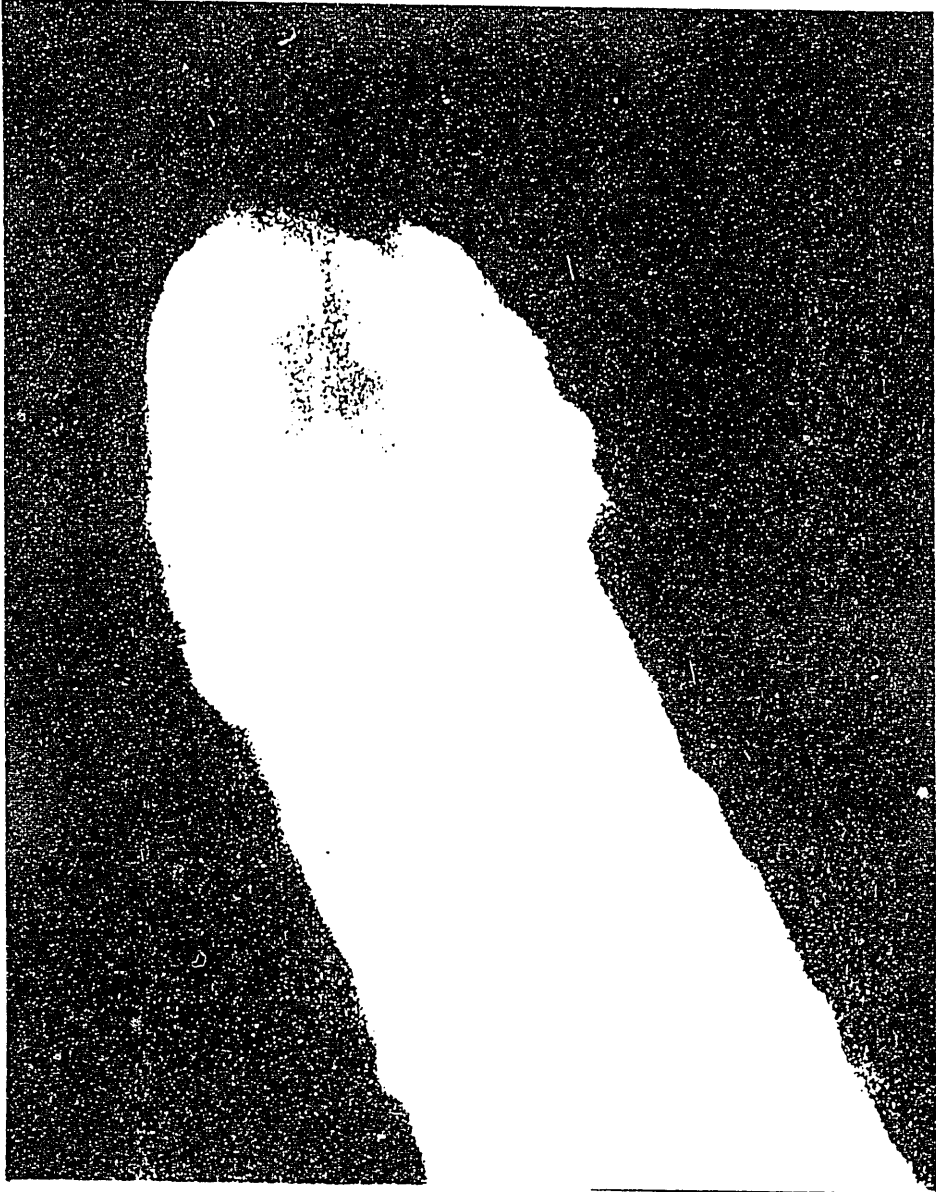
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SRM 120 Cork Missing

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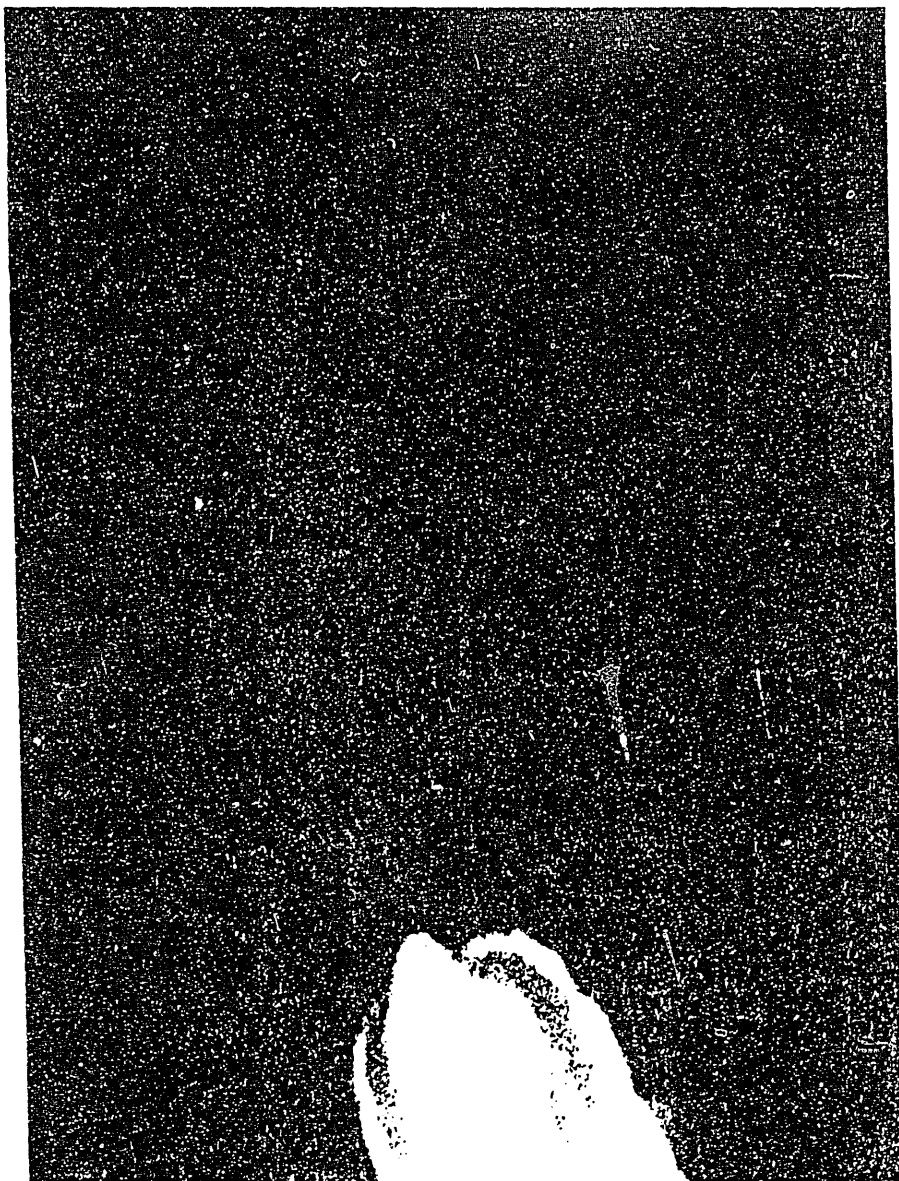
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Stage I Ignition "Puff"

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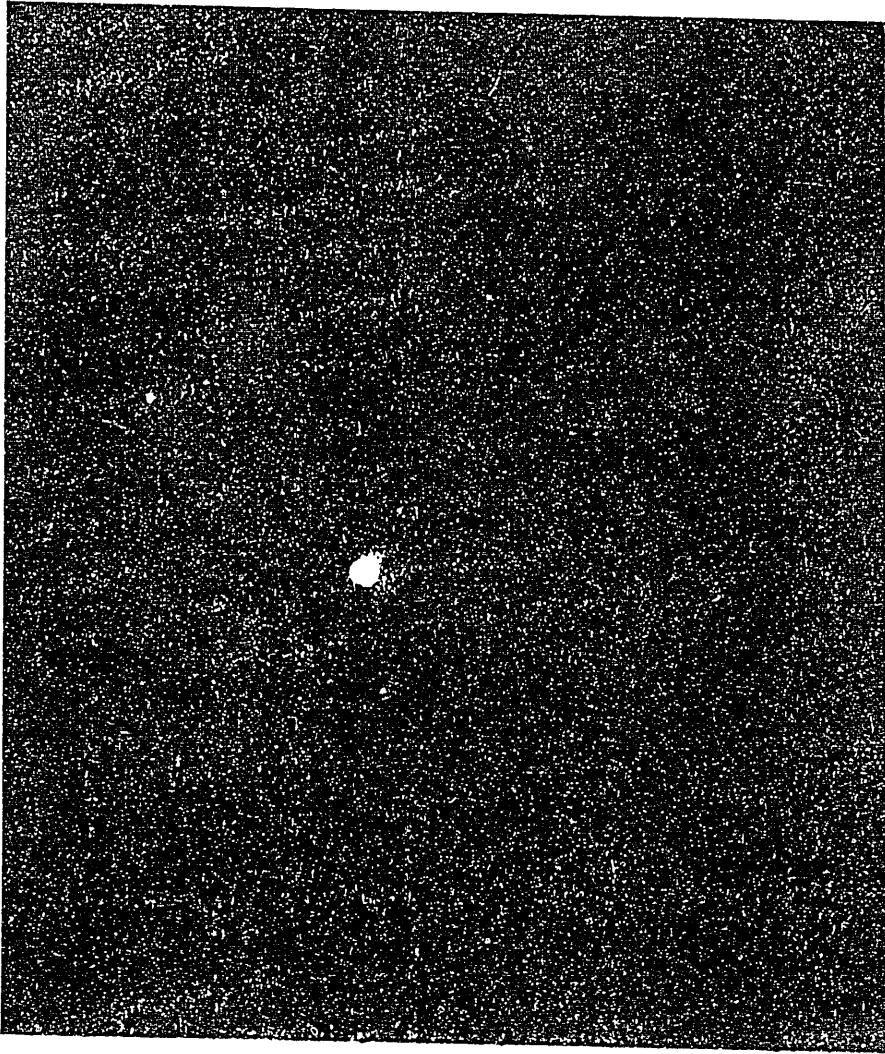
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Red "Bow Tie" Effect

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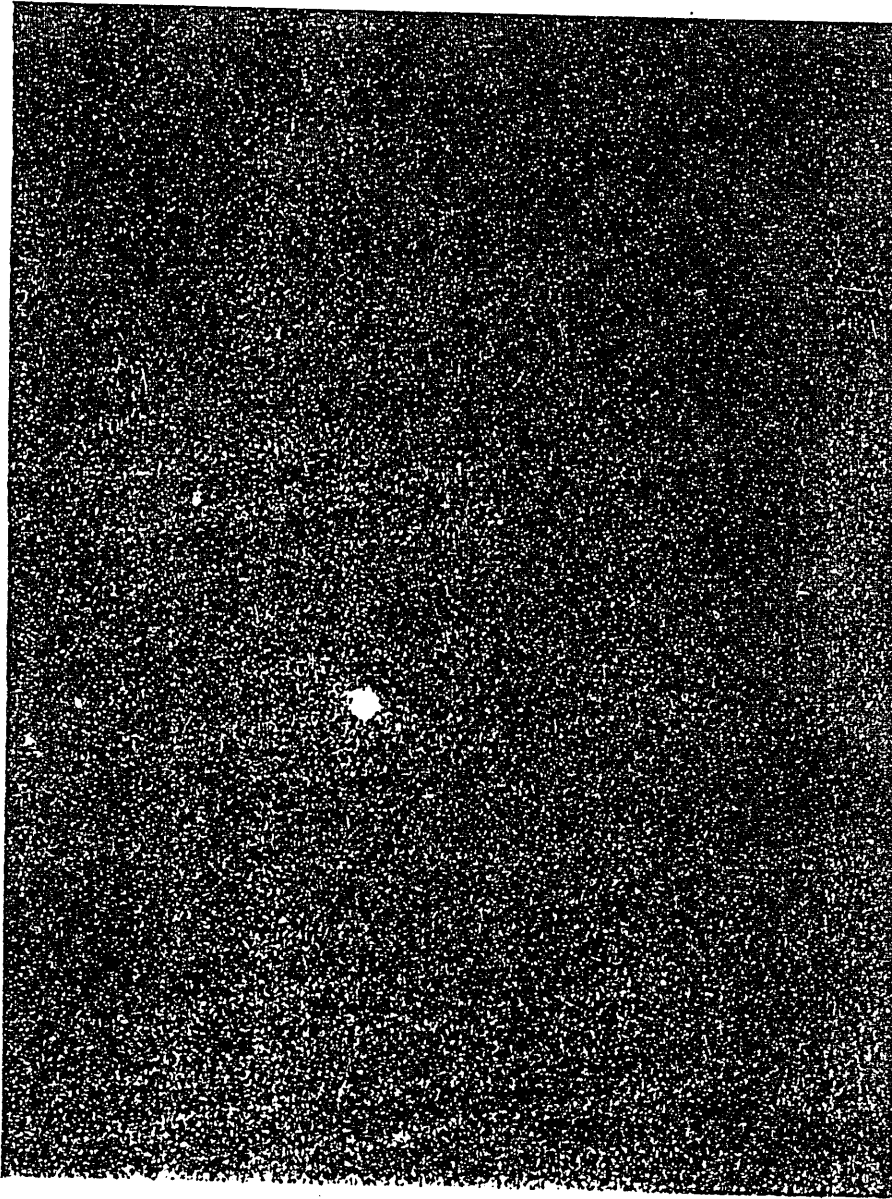
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Venting after Stage O/I Separation

~~FOR EYES ONLY~~

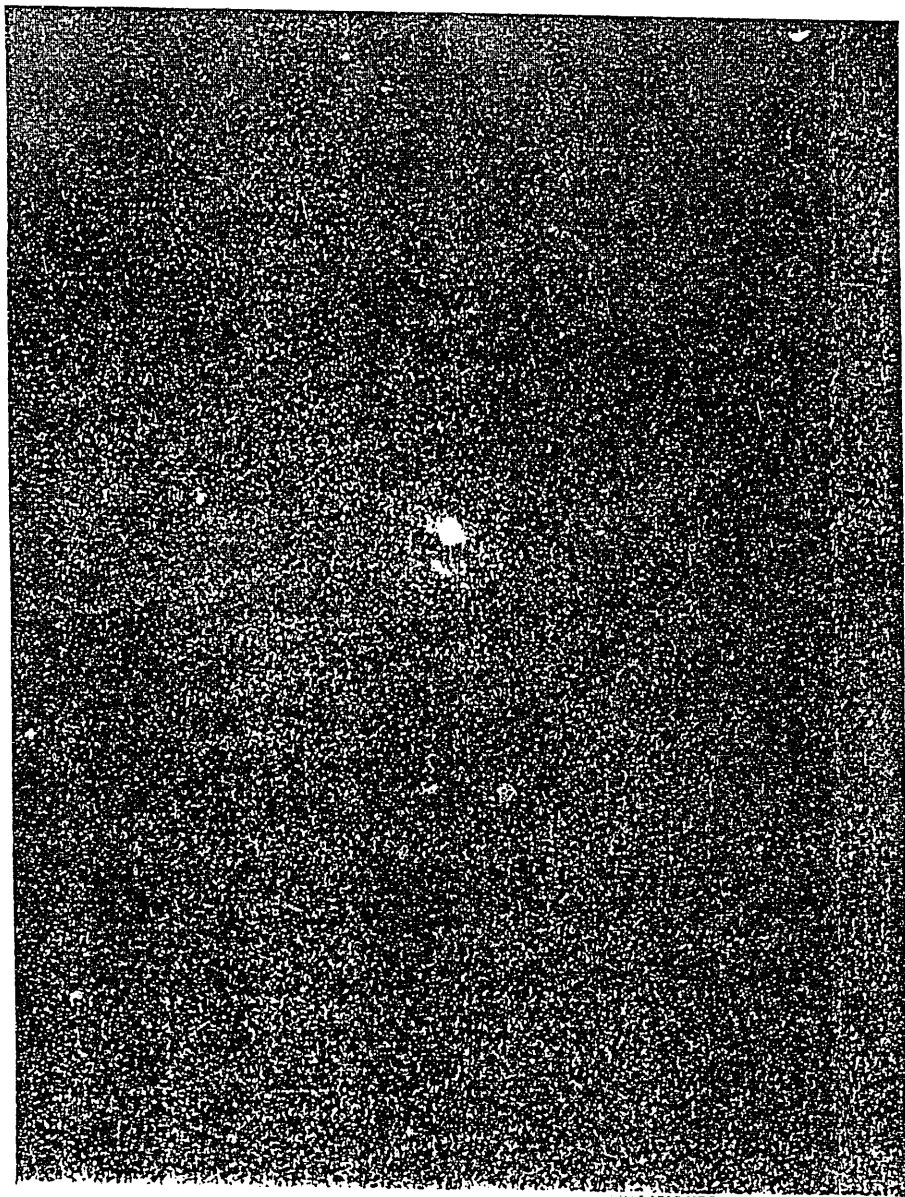
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Venting During Stage I Flight

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Pinwheeling after Subassembly 1 Shutdown

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